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ABSTRACT

This task force report defines competency-based education (CBE) as a system of education designed to develop competencies in those who are products of the system. A distinction is made between CBE and performance based education (PBE) in this report. Although the American Association of Colleges for Teacher Education Committee on Performance-Based Teacher Education considers the terms interchangeable, this task force considers the term competency to be the better choice for the name of the system. The report also presents an operational definition characterizing CBE, and states that CBE programs include (1) individualized instruction, (2) learning experiences guided by feedback, (3) the characteristics of a system, (4) careful definition of performance goals in assessable terms and guidance of instruction by evaluation of learner performance, and (5) a focus on the student in the teaching-learning process and product. Six functions of competency are also identified and discussed. These include binary, communication, suggestive, investigative, and generative functions. The paper then sets forth what appear to be the 11 chief issues presently confronting the CBE movement. The last section of the report presents 10 problems relating to competency-based education. (BD)

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Competency-Based Education--
What Is It?

Report to the Vice Chancellor by a Task Force
Appointed by the Faculty Senate,
UW--Stout, Menomonie, Wisconsin
November, 1974

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INTRODUCTION

In the spring of 1974, Vice Chancellor Face requested the appointment by the Faculty Senate of a Task Force to develop from the literature a basic statement on Competency-Based Education. This is that Task Force report in which the following topics are presented:

1. Defining Competency-Based Education
2. Contrasting Competency and Performance
3. Characterizing Competency-Based Education--An Operational Definition
4. Functions of "Competency" as a Language
5. Issues in Competency-Based Education
6. Problems in Competency-Based Education

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DEFINING COMPETENCY-BASED EDUCATION

What is competency-based education? The answer seems so obvious: competency-based education is education based on competencies. The root word is competent and requires more careful examination.

Dictionary definitions include:

1. well-qualified
2. answering all requirements
3. having requisite abilities or qualities
4. capable
5. adequate
6. sufficient without excess
7. legally qualified or fit

Implicit in the word competent is the assumption that competence in a given task can be held to differing levels of proficiency. Moreover, while the words, adequate, sufficient, without excess, and the like, imply less than the highest possible proficiency level, competency really does mean answering all requirements, well qualified and having requisite abilities and qualities.

Kauchak says it this way:

> "Competency based education also emphasizes the execution of predetermined activities, but in addition is concerned with the establishment of criterion standards for the execution; and with the level of proficiency at which the activities are executed."[1]

There must be some object or relevant-role toward which competency development is directed. One obviously should be competent in something. What then is the class of objects with respect to which one can be competent? The answer seems to lie in the domains of knowledge: cognitive, affective and psychomotor. Competencies may be developed in any one or combination of the domains of

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[1]Donald P. Kauchak, Chapter 6: "The Semantics of Competency Based or Performance Based Teacher Education" in Institute for Training Directors of Teacher Education Reform Programs, Final Report. Washington State University, Pullman, July, 1973, pp. 132-133.

knowledge. This provides a theoretical model for instructional decision making. This is not to say that we know with precision how to make decisions equally well in each domain nor that we can measure with equal ease whether competence has been developed within each domain. It is to say, however, that to the extent to which we can specify role relevant outcomes, that we can identify the competencies needed for successful performance and that we can design instructional programs which will guide learners toward acquiring these competencies in a reasonably efficient manner.

A survey of the literature reveals few definitions of competency-based education. Klingstedt defines it: "Competency-based education is based on the specification or definition of what constitutes competency in a given field."[2]

A competency based curriculum has been defined as: "A system designed to provide instructional data to interested parties".[3]

It is the position of the task force members that: competency-based education is a system of education designed to develop competencies in those who are the products of the system.

CONTRASTING COMPETENCY AND PERFORMANCE

Considerable debate has taken place at meetings and in the literature over whether competency-based, performance-based or either term may best be used to describe the concept. Although some of the contrasting examples which follow

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[2]Joe Lars Klingstedt, "Philosophical Basis for Competency-Based Education", Educational Technology, November, 1972, p. 10.

[3]Roger A. Place, "The Performance-Based Curriculum", An Address before the National Association of Secondary School Principals' Convention, Dallas, Texas, February, 1973.

are from the field of teacher education, the points made in this comparison are equally applicable to any dimension of competency- or performance-based education without reference to field.

A committee of the American Association of Colleges for Teacher Education has taken the view that it doesn't matter which term is used if the operational principles are agreed upon:

> "The AACTE Committee on Performance-Based Teacher Education has chosen to retain the term 'performance-based' in the belief that the adjective itself is relatively unimportant if there is consensus on what elements are essential to distinguish performance- or competency-based programs from other programs."[4]

Three years later in reviewing its position the committee stated that both terms are needed since the concepts implied in each are included in the programs no matter which term is used to describe them:

> "The AACTE Committee decided to stay with its original title, largely for reasons of convenience and because it saw no compelling reason to change. It is perfectly happy if anyone else wishes to use the term CBTE where it used PBTE and considers the terms interchangeable within the context of its work."[5]

Kauchak, however, offers this warning:

> "The foregoing discussion (i.e., his discussion) is an attempt to illustrate how 'competency-based teacher education' and 'performance-based teacher education', commonly used synonomously in the literature, carry many differing connotations. The differences of meaning, when examined analytically, reveal questions about ideas subsumed under the terms themselves. Moreover, the differences of meaning subtly affect the implementation of the concepts which the terms represent into diverse teacher education programs. It would be prudent of educators to distinguish more precisely between terms commonly used to describe a new concept or approach to teacher education."[6]

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[4]Stanley Elam, Performance-Based Teacher Education, What is the State of the Art, AACTE, Washington, D.C., 1971, p. 6.

[5]AACTE Committee on Performance-Based Teacher Education, Achieving the Potential of Performance-Based Teacher Education: Recommendations, AACTE, Washington, D.C., 1974, p. 11.

[6]Kauchak, op. cit., p. 135.

In attempting to make such a distinction Houston suggests: "Both performance-based and competency-based express important elements of the movement--one focusing on objectives, the other on criteria".[7]

> "Objectives describing a behavior but without additional criteria lead to performance-based education; while behavioral objectives with performance criteria lead to competency-based education".[8]

> "The word 'performance' itself connotes action or motion regarding some task or activity, implying not random movement but rather a disciplined and orderly flow in which there are present some constants providing structure to and continuity within the action."[9]

> "Competency-based emphasizes a minimum standard; it adds criterion-levels, value orientations and quality to the definition of the movement."[10]

Dictionary definitions of performance focus upon the execution of an action, something to be accomplished. Fears are expressed that performance may connote physical activity only. To the extent that evidences of performance are the evidences of the existence of competency, performance may be the desirable term. However, performance carries with it the past-tense of having performed while competence suggests the capability to perform. Accordingly, competency, defined

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[7] W. Robert Houston, Performance Education, Strategies and Resources for Developing a Competency-Based Teacher Education Program, N.Y. State Education Department, Division of Teacher Education and Certification, 1972, p. 25.

[8] Richard W. Burns, "Behavioral Objectives for Competency-Based Education", Educational Technology, November, 1972, p. 39.

[9] Horace E. Aubertine, "The Evolution of Performance Based Teacher Education Programs", American Educational Research Association, New Orleans, La., February 28, 1973, p. 6-7.

[10] Houston, op. cit., p. 26.

as having requisite abilities or qualities to specified minimum proficiency levels, seems to the task force members to be the better choice for the name of the system.

CHARACTERIZING COMPETENCY-BASED EDUCATION--AN OPERATIONAL DEFINITION

The literature reveals many more statements of characteristics of competency-based education than definitions of it. Apparently the choice of these writers has been to define it in operational rather than theoretical terms. This may be one of the reasons for the confusion that exists. By adding the characteristics of competency-based education as they are proposed operationally, the committee hopes to provide for a better description of the concept of competency-based education.

As the base for this task force report, the work of the AACTE committee is quoted at some length. This committee has published, to date, sixteen bulletins on performance based teacher education over a period of four years. In February of 1974, the committee itself wrote and published the 16th bulletin in the series: Achieving the Potential of Performance Based Teacher Education: Recommendations. It will be recognized that this is the committee refered to earlier which has taken the position that either competency- or performance-based education can be the term that is used. In this considered report, before they deal with teacher education, they have set forth characteristics of any performance-based instructional program:

1. The instructional program is designed to bring about learner achievement of specified competencies (or performance goals) which have been:

   -derived from systematic analysis of the performance desired as end product (usually that of recognized practitioners) and

-stated in advance of instruction in terms which make it possible to determine the extent to which competency has been attained.

2. Evidence of the learner's achievement

-is obtained through assessment of learner performance, applying criteria stated in advance in terms of expected levels of accomplishment under specified conditions and

-is used to guide the individual learner's efforts, to determine his rate of progress and completion of the program, and, ideally, to evaluate the efficacy of the instructional system and add to the general body of knowledge undergirding the instructional process.

The foregoing implies, of course, that

1. Instruction is individualized to a considerable extent.
2. Learning experiences are guided by feedback.
3. The program as a whole has the characteristics of a system.[11]

A statement of special concern on this point was prepared by committee member William H. Drummond as follows:

> A good human system does not have to have a completely clear view of the end product. A good system recognizes that man's knowledge is limited; that teaching is situation specific. The task, therefore, is to forecast goals as well as one can using the data which are available. Then, using science and current professional knowledge, institutions should forge ahead with programs which make each activity a learning enterprise for the institution, the staff and the students. This process used to be called action research.[12]

4. Emphasis is on exit requirements
5. The learner is considered to have completed the program only when he has demonstrated the required level of performance.
6. The instructional program is not time-based in units of fixed duration.[13]

In this report the committee goes on to discuss the word competencies as used in their first characteristic listed on page 5 of this report. Additional

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[11] AACTE, op. cit., p. 7.

[12] Ibid., p. 38.

[13] Ibid., p. 7.

significant discussion is presented and then closed with a claim for the power of performance based instruction:

> The point should be made, also, that the term "competencies" in the statement of essential characteristics does not refer solely to discrete skills and descriptive knowledge but may include much more complex attributes such as the ability to marshal evidence, to reason logically, to appreciate beauty, etc.
>
> The formula for performance-based instruction is deceptively simple: *careful definition of performance goals in assessable terms and guidance of instruction by evaluation of learner performance.* It might well be argued that any sensible approach to instruction includes formulation of goals and assessment of student progress. And so it does. The essential distinction lies in the degree of explicitness and realism with which goals are defined--their direct relationship to the learner performance ultimately desired--and the degree of rigor with which the evaluative process is carried out in direct consonance with the stated goals. The stress on performance is intended to lead those responsible for the instructional program constantly to check that program against the goal it is ultimately intended to achieve--the desired performance of the practitioner--not to be satisfied with attainment of proximate goals within the instructional process which tend over time to become ends in themselves.[14]

Committee member Drummond expressed concern with respect to the possibility of closing the system:

> There is a danger that a system may become closed -- that is, it may become unable to change as conditions external to the system changes. Both a system and a scientific experiment tend to focus attention and energies exclusively on events which lie within the parameters of the problem or the system. PBTE programs may be vulnerable to this problem. PBTE programs probably should be shut down periodically to see if the operating goals and objectives are worthy -- whether the underlying assumptions are still appropriate in relation to the human condition and the problems of the world.[15]
>
> It is important to recognize that the characteristics listed above would apply to any performance-based instructional program regardless of the age of the learners, the type or complexity of the learning task, or the values of the society in which it was carried on. They would apply to marksmanship instruction in Hitler Germany, teaching of Red

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[14] Ibid., p. 8.

[15] Ibid., p. 38.

> Cross life-saving to adults in Russia, or teaching prospective teachers in America how to diagnose reading difficulties. If the program met the above criteria, it would be performance-based instruction. It should be noted that nothing is said about instructional techniques, the usual focus of discussions of instructional programs. Under the foregoing definition, a wide variety of instructional techniques may be used--lecture, discussion, laboratory exercises, problem solving, field experience, micro-teaching, game playing, etc. The specific technique used is not unique to the concept of performance-based instruction,and, therefore, does not enter into the definition. It is generally the case in actual practice that instruction is individualized these are not essential defining characteristics. Moreover, the concept implies no special relationship between the learner and the instructor and no particular role for the student other than the traditional one of "doing his lessons."
>
> Performance-based instruction, so defined, is a powerful model, minimizing waste in the learning process by clearly defining goals and by the continuous use of feedback. It is limited in that it can be applied with full rigor only where the objectives sought can be defined in advance in terms which allow the degree of attainment to be verified. This requirement makes it difficult (but not inherently impossible) to apply the process where the outcomes sought are complex and subtle and particularly where they are of an affective nature.[16]

Another characteristic is identified by Place: "The information system for the performance based curriculum focusses on the student in the teaching-learning process and product."[17]

Johnson explains that competency based education should make "realistic allowances for differences among learners" including "their accumulation of experience, extent of achievement, and rate and style of learning".[18]

Hamilton speaks to the independence of performance evaluation to others: "Competency based programs are criterion referenced and thus provide information

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[16]Ibid., p. 8.

[17]Place, op. cit., p. 3.

[18]Charles E. Johnson, "Developing Competency-Based Edutational Programs for the Preparation and Certification of Professional Personnel, Abstract of a presentation to the Annual Meeting of the American Vocational Association, Atlanta, Ga., 1973, p. 2.

as to the degree of competence attained by a particular student teacher, independent of reference to the performance of others".[19]

Reenforcement of criterion referenced measurement is suggested by Elam when he states that: "Greater congruity between objectives and evidence admitted for evaluation purpose"[20] is characteristic of competency-based programs.

Johnson relates objectives directly to relevant roles suggesting that a characteristic is that competency based education insures that one can do the job as opposed to just "learning about it".[21]

In the AACTE statements presented earlier, it was suggested that affective outcomes were difficult but not inherently impossible within systems of competency-based education. In a paper delivered to the Association for Educational Data Systems, the position is taken that: "Competency-based education is morally neutral in that it is not inherently positive or negative in contributing to a humane educational environment."[22]

Hamilton in her extensive review of competency based teacher education projects of the U.S. Office of Education has this to say.

> "The directors claim, however, that the CBTE approach need not make teacher training inhumane and mechanical: specification of behavioral objectives does not preclude the attainment of other, equally important, objectives in the affective domain."[23]

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[19]Phillis D. Hamilton, "Competency-Based Teacher Education", Stanford Research Institute, Educational Policy Research Center, Menlo Park, Calif., July, 1973, p. 3.

[20]Elam, op. cit., p. 11.

[21]Johnson, op. cit., p. 2.

[22]J. Bruce Burke, Julia O'Neill, and Kay Welsch, "Competency Designs for a More Humane Education", Paper presented to the Annual Convention: Association for Educational Data Systems, New Orleans, La., April 16-19, 1973, p. 2.

[23]Hamilton, op. cit., p. 24-25.

Place also takes a stand with respect to competency-based education and the affective domain:

> Some teachers become so concerned about developing measurable objectives that they become too specific and believe that anything not capable of measurement does not belong in the performance-based curriculum. This position is untenable in light of the current state of affairs. Many affective areas of the curriculum do not lend themselves to our current methods of measurement. This does not mean they should be discarded.[24]

FUNCTIONS OF "COMPETENCY AS A LANGUAGE"

Six functions of competency are identified in a paper on "Competency: The Language of the Behavioral Objectives Movement."[25]

The Binary Function of competency is its ability to turn some people "on" and others "off". This would suggest its relationship to philosophical views. Some believe in a behavioral approach and some do not.

The second function is the Communication Function. This function reduces or eliminates communication failure. Craig states that: "This is the most frequently used function, but because of the language's novelty, fluency varies and risk of massive communication failure is inherent".[26]

The Suggestive Function produces both major and minor instructional development. "Goals expressed in competency readily suggest innovative experiences in methodologies organically related to the goals".[27]

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[24]Place, op. cit., p. 7.

[25]Samuel B. Craig, Jr., "Competency: The Language of the Behavioral Objectives Movement", A paper presented to the Steering Committee, Pennsylvania Day Care Personnel Project, Detroit, Michigan, February 14, 1973, p. 20.

[26]Ibid, p. 11.

[27]Ibid, p. 12.

In the Investigative Function: "Educational researchers have long been using a variation of competency in the investigative function. Their research hypotheses (a competency dialect) provide for a series of observable independent and dependent variables such as I.Q., achievement, attitude and age."[28]

The Generative Function is theoretical at the moment. Craig cites as an example of how it might become operational that: "educational philosophers of most orientations might enjoy productive and powerful philosophical speculation".[29]

The final function in his list is the Valuative Function as he states:

> All persons involved in CBTE have used Competency at one time or another in the valuative function. Discussions on the characteristics of a model teacher, on how to distinguish among various levels of teaching ability, and on competency-based professional certification involve Competency in this function. As it happens, most of the negative orientations toward CBTE originate in this function. For example, when a person makes a tentative commitment to Competency in the binary function he very quickly finds himself embroiled in a debate over model teacher characteristics or assessment procedures using Competency far above his level of fluency in the valuative function. Discouragement sets in and the individual rejects Competency, reverting back to the generalities of descriptive English which usually characterize such discussions.[30]

The foregoing discussions indicate that there is increasing agreement among those who are working with the concept of competency-based education as to what it is operationally. This is certainly not to say that all are in agreement, nor that criticism does not abound. It does say, however, that as more professionals work with the ideas that there is emerging a set of characteristics

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[28] Ibid.

[29] Ibid., p. 12-13.

[30] Ibid., p. 13.

which can be ascribed to the concept and which will probably become more clear with further research and experience.

ISSUES IN COMPETENCY-BASED EDUCATION

In this section, the committee has set forth what appear to be the chief issues presently confronting the competency-based education movement. Since issues are debatable it will be for the reader to judge for himself where he stands on each.

1. Can all competencies for a given role be specified?
2. Can all competencies that can be specified be measured?
3. Can competencies accommodate affective education?
4. Should the time period for development of a given competency be specified?
5. Does CBE promote only the teaching of the insignificant through its reliance on analysis of elements and its requirements of measurable outcomes?
6. Does CBE have an adequate philosophical base?
7. Does the CBE movement promote a closed system unable to cope with change?
8. Because CBE already means so many things to so many professionals, does it really have any chance for success?
9. Will the profession accept an innovative concept which tends to provide the vehicle for holding them accountable?
10. Is the "competency" concept so difficult in practice that its potential may never be reached?
11. Can the extensive resources required be made available to implement the concept?

PROBLEMS IN COMPETENCY-BASED EDUCATION

While issues are defined as debatable, problems are identified and await solution. Critics as well as proponents of CBE have identified an ample supply of problems. Even if we were all to turn our attention to these there remains the question of whether viable solutions can be found.

1. How can an adequate research base be established?
2. How do we determine who is competent?
3. What are adequate assessment and measurement devices for CBE?
4. What are desirable systems of management for CBE including credits, credentials and certification?
5. How may narrative evaluations be made more efficient?
6. How can financial requirements be met?
7. In an essentially individualized program how are group activities scheduled?
8. At what level(s) of specificity should the parts of CBE be defined?
9. When do we stop further specification and sub-division of competencies?
10. How can teacher acceptance of CBE be developed (promoted)?